

DESCRIPTION OF A NEW FOX FROM SOUTHERN
CALIFORNIA.

Vulpes macrotis sp. nov.

LONG-EARED FOX.

BY DR. C. HART MERRIAM.

(Read Feb. 11, 1888.)

The fox which is the subject of the present communication was killed at Riverside, San Bernardino county, California, November 1, 1885. It differs so strikingly from the other North American foxes that detailed comparison is unnecessary. It is a small animal, the single specimen before me being a little less in size than the Kit Fox (*Vulpes velox*), agreeing in this respect with the California Island Fox (*Urocyon littoralis*), from which latter animal, however, it differs generically. Its most noticeable external peculiarity consists in its large ears, which character alone suffices to distinguish it from its North American congeners.

It is not a little surprising that so large a mammal as a fox, inhabiting so well explored a region as California, should have escaped notice till the present time; and the fact is still more remarkable from the circumstance that the animal here described differs so notably from its nearest relatives. For these reasons, and others derived from a study of the specimen with a view to the known laws of geographical variation, I am led to the belief that it is a Mexican species, finding its northern limit in southern California. The place where the present specimen was killed (Riverside, San Bernardino county) is only a hundred miles from the Mexican boundary.

The following diagnosis is sufficient for purposes of identification:

VULPES MACROTIS sp. nov.

Type No. $\frac{1792}{2324}$, male, young adult, Merriam Collection.

RIVERSIDE, CALIFORNIA, NOVEMBER 1, 1885. F. STEPHENS.

EXTERNAL CHARACTERS.—Size, small, equalling or a little less than that of *Vulpes velox*; ears long and broad, relatively much larger than in any other North American fox, and well haired on both sides; muzzle, legs, and tail long and slender, the latter a little longer than the body, and about as slender as in *Urocyon virginianus*. Soles well haired, the plantar tubercles being entirely concealed.

COLOR.—Upper parts grizzled-gray, palest on the head and darkest on the back; terminal fourth of tail nearly black; sides, upper surface of legs, and pectoral band pale fulvous; under parts white mixed with pale ochraceous-buff. In the only specimen at hand the general color is almost as pale as that of *V. velox*. This is due to the fact that the pure white sub-apical zone of each hair is much enlarged, while the black terminal portion tapers rapidly into a much attenuated, awn-shaped point, the result being that the white predominates over the black. The dorsal hairs are short for a fox, and the pale buff of the under fur shows through, thus completing the combination which gives to the back its grizzled-gray appearance. There is no indication of a dorsal stripe on either back or tail. The convex surface of the ear is well covered with short fur which is pale fulvous in color, and mixed with iron gray, except at the base posteriorly where the gray is nearly absent. The margin of the ear is white, as are the long hairs bordering it inside. Between the white border and the grizzled fulvous of the upper surface of the ear there is an indistinct dark line. The base of the ear in front is covered by a dense growth of fur and hair which completely hides the

meatus. The lower lip is bordered by a narrow margin of blackish hair, which curves upward around the commissure, and extends forward about one-fourth the length of the upper lip. The chin and throat are entirely white. The whiskers are black, and the hair about their bases is darker than on other parts of the face.

Measurements from the dry Skin.

(All measurements in millimeters).

Total length,	850.
Head and body,	510.
Tail to end of vertebræ,	290.
Tail to end of hairs,	340.
Hind foot,	110.
Height of ear from crown,	68.

CRANIAL CHARACTERS.—The skull is that of a young adult, and probably is not quite full grown; the zygomatic breadth, therefore, is less than it would be in a more aged specimen. Unfortunately, a considerable portion of the occipital region, including both condyles, is broken away; hence the basilar length and several important ratios cannot be taken. The facial part of the skull is much produced and attenuated, the muzzle being relatively longer and more slender than in any other North American fox, and the palata. region correspondingly narrowed. The anterior palatal foramen extends posteriorly to a point opposite the interspace between the canine and first molar. The palatine bones are truncated anteriorly at the post-palatal foramina. The zygomæ arch upward more strongly than usual in the genus, and the audital bullæ are conspicuously larger, deeper, and more rounded, which condition, doubtless, is correlated with the great development of the external ears.

Cranial Measurements.

Basilar length,	*
Occipito-nasal length,	103.
Greatest zygomatic breadth,	58.2
" breadth across parietals,	42.
" " between mastoids,	38.7
Least breadth at interorbital constriction,	19.8
" " " postorbital notch,	20.5
Distance between postorbital processes,	26.3
Palatal length,	55.7
Greatest length of nasals,	40.
Breadth of muzzle at canines,	15.7
" " " midway between canines and root of zygoma,	14.8
Length of lateral series of teeth (on alveolæ),	51.7
Breadth of palate between canines,	9.7
" " " " 1st premolars,	9.5
" " " " 4th premolars,	17.
" " " " 2d molars,	16.2
Length of mandible,	83.8
Height of coronoid process from angle,	27.
Length of lateral series of teeth (on alveolæ),	57.8
Length of molariform series,	47.5

* Cannot be ascertained because the condyles are broken off.